

## ABSTRACT

A software controlled electronic dimming ballast for preheating, striking, and varying the dimming level of a lamp. In one embodiment, the ballast includes an EMI filter circuit, an AC/DC converter circuit, a PFC circuit, an inverter circuit, and a software controlled microcontroller circuit. The microcontroller circuit includes a microcontroller and software for generating inverter control signals that cause the inverter circuit to preheat, strike, and varying the dimming level of the lamp. The inverter control signals are generated based on dimming control and lamp dimming level feedback signals. The ballast also includes a lamp dimming level feedback signal conditioning circuit for generating the lamp dimming level feedback signals. Alternative embodiments of the ballast are also described.